physical research, for which he received a stimulus as a student under Sir William Thomson (Lord Kelvin) in Glasgow University. He lived a retired life in Falkirk in a house which was largely fitted up as a laboratory, whence he would emerge from time to time to communicate some novel experiment or observation to the Royal Society of Edinburgh. Dr. Aitken frequently visited the Continent, partly for his health's sake, and never failed to utilise his opportunities in studying at first hand the varied meteorological conditions of our globe. He published scientific papers in the *Philosophical Magazine* and through the publications of the Royal Societies of London and Edinburgh, but it was mainly through the latter society that his important investigations were laid before the scientific world.

In his classical memoir on dust, fog, and clouds (1880) Dr. Aitken broke entirely new ground, and by his later paper on dew (1885) he consolidated his reputation as a natural philosopher of the first rank. Those who were privileged to see his demonstrations before the Royal Society of Edinburgh in 1880 can never forget the effective simplicity of his apparatus and the clearness of the argument by which he established the great truth that invisible dust particles are the nuclei on which water vapour condenses to form mist, fog, and cloud in all their infinite variety. By successive slight exhaustions of saturated air in a glass receiver, and by infiltration through cotton-wool of ordinary air from the outside, he gradually cleared it of dust particles; and when this purification had been effected, expansion with cooling of the enclosed air was, in general, unaccompanied by the formation of cloudy condensation. He noted, however, in these early experiments, that after the air had been thus purified of dust particles, a more rapid and somewhat greater expansion was sometimes accompanied by cloudy condensation. The explanation of this was afterwards given by Mr. C. T. R. Wilson, who showed that in dustless saturated air suddenly expanded electric ions acted as nuclei on which drops of water were deposited. This ionic condensation requires a distinctly greater diminution of pressure than is needed to effect the cloudy condensation in ordinary unfiltered air, and in his last paper on the subject of cloudy condensation (Proceedings R.S.E., 1917) Dr. Aitken gave many experimental illustrations of his belief that under ordinary atmospheric conditions the nuclei on which fog, mists, and clouds form are fundamentally the dust particles, although the effect may be occasionally intensified by the presence of ions.

Dr. Aitken followed up his main investigations in many ingenious ways, inventing, for example, an instrument for counting the number of particles in a given specimen of air, and applying it to the study of the conditions under which the number of dust particles varied according to locality, wind, barometric pressure, or time of day. In all these discussions he displayed unusual powers of accurate observation, great skill in devising crucial experiments, and singular gifts in interpreting natural phenomena. His researches led him into questions of colour in cloud, sky, and sea, and into the dynamical laws of cyclones and anticyclones. In this last branch of meteorology he found himself at variance with other leading meteorologists. Dr. Aitken was elected a fellow of the Royal Society of Edinburgh in 1875, and of the Royal Society of London in 1889. By the former he was awarded the Keith medal and prize (1886), and the Gunning jubilee prize (1895), and by the latter a Royal medal in 1917. In 1899 he received the degree of Doctor of Laws from Glasgow University. He was a lovable personality and of great modesty of disposition. Much though his many friends desired it, he would never allow himself to be nominated for high office in the Royal Society of Edinburgh. This, he maintained, was not his *forte*. He was a humble student of natural phenomena, and his one desire was to elucidate the workings of Nature in her everyday moods.

C. G. K.

NOTES.

THE Electricity (Supply) Bill, which passed the report stage in the House of Commons on Tuesday, is a laudable attempt by the Government at constructive economy. In almost every business, combination and standardisation lead to great economies, and this applies in a very special manner to the supply of electricity. An attempt was made on Monday to prove that the Bill in its present form was a breach of the agreement made in the Act of 1888 whereby a term of forty-two years was granted to the companies to carry on their supply without Government interference. This is perhaps technically right, but the companies have no real grievance. The Bill leaves their distributing business undisturbed, and guarantees to supply them with electricity as cheaply as they could generate it for themselves. Lord Moulton and others have laid great stress on the economy, from the point of view of the conservation of coal, of using gas for heating instead of electricity. Many electrical engineers will agree with this view. But although electrical supply companies will provide energy for heating—generally at prohibitive rates—when they are specially asked, they regard the heating load as of minor importance. Electrical heating forms only one of the manifold uses of electricity. Every engineer knows that cheap power is essential to many of our most important industries. Our supremacy as a commercial nation depends on a plentiful supply being available. A cheap and abundant supply would soon effect an industrial revolution, and be a special boon to the manual workers. Another objection that has been urged against the Bill is the danger of strikes. If a national system of supply were adopted, and if the electric workers went on strike, the work of the nation could be held up at any moment and the nation forced to grant the demands of the workers, however unreasonable they were. The experience gained by the workers, however, during the recent railway strike ought to discourage similar action against the community in the future.

UNDER a Bill introduced by the Government last week, power is given to the Board of Trade to safeguard "key" industries in this country by prohibiting the importation of certain articles. Of chief scientific interest among these are analytical reagents, photographic and various other "fine" chemicals, optical glass, laboratory porcelain, scientific and optical instruments, synthetic drugs and perfumes, coal-tar dyes, and dyestuff intermediate products. The method of prohibition is by means of an Order of the Board, but such Orders are to be subject to the approval of a Trade Regulation Committee, consisting of four political heads of Departments, three permanent officials, and ten Members of Parliament. Licences for the importation of any of the prohibited articles may be granted, either generally or in respect of specific quantities or shipments. The proposals appear to be carefully and fairly devised to meet what is admittedly a difficult situation. They have been referred to as measures injurious to scientific teaching and research, but if the industries producing the articles in question are not to be strangled out of existence in this country they must for a time be protected against "dumping"; while the power to allow importation when this appears necessary should act as a check upon excessive prices and prevent scarcity of particular products. The measure in question is eminently one in which very much will depend upon judicious administration.

AMONGST the younger generation of naturalists in this country there would seem to be a great dearth of men well qualified by training and experience to study entomology, not merely as a pastime or for the pleasure and delight they may find in it, but as one of those sciences of life which are of the greatest present value to the State and to humanity at large, and full of potentialities for the future. There was a time when, to one seeking a profession or other means of livelihood, the prospect presented by entomology looked very black indeed, but, according to a letter from Sir Alfred Keogh which appeared in the *Times* of November 20, a number of reasonably well-paid posts are now open to trained young entomologists. The difficulty in finding men properly qualified to fill them need not be a cause of surprise when it is considered that until recently there was scarcely a professional post of the kind in this country outside the British Museum, and that the few in the museum were by no means well-paid. They appear to be no better paid now. Another correspondent, whose letter signed "F.R.S." was published by our contemporary on Saturday last, points out that the pay of an assistant in the museum begins at little more than one-third of the pay of a lieutenant in the R.A.M.C., and never, while he remains an assistant, does it reach a higher level than the pay at which that lieutenant begins. He might have added that an assistant in the Natural History Museum very rarely has a chance to get beyond that stage, since the higher appointments are so extremely few in both number and proportion compared with those in other branches of the Civil Service. There is one only in entomology, which is the second largest department, and the other departments in the same branch of the British Museum are scarcely better off in that respect. It is astonishing that, at a time when the value of science is becoming daily more and more appreciated even by the general public, this state of affairs should continue to exist in one of our leading scientific institutions.

AT the invitation of Lord Glenconner, a very distinguished company assembled at his house in Queen Anne's Gate on Monday last to hear an exposition of the subject of relativity by Sir Oliver Lodge. To give a non-mathematical explanation of the principle and show how it leads to the prediction of changes in the perihelion of Mercury's orbit, which are unexplained by Newtonian theory, the deflection of a ray of light from a star passing near the sun, and the displacement of lines of solar and stellar spectra towards the red, was obviously impossible, and Sir Oliver did not attempt it. He limited himself to a statement of the close agreement between the predicted and measured deflections of star places derived from the photographs of the total solar eclipse of May 29 last, and to an explanation of the effect on dynamical principles. If gravitation is assumed to affect the refractive index of the æther, so that at every point $\mu - 1 = v^2/c^2$, where μ is the refractivity, v the velocity of free fall from infinity, and c the velocity of light, this condition would give the Einstein deflection. Gravitation cannot increase the velocity of light, but Sir Oliver thought that there might be a kind of gyrostatic effect upon a beam coming from infinity the result of which would be a deflection such as has been observed. He preferred to endeavour to explain the observations on dynamical principles before bringing in a new theory. Prof. Schuster, however, at the close of the address, urged that the best way to deal with a theory was to accept it as a working hypothesis and put all its consequences to the test. The announcement of the eclipse results has brought the relativity principle into prominence in the general Press, and many people have consequently become interested in it. For several years scarcely a volume of NATURE has been without contributions on the principle, and we would direct particular attention to two articles in our columns of June 11 and 18, 1914, by Mr. E. Cunningham a Royal Institution discourse by Prof. A. S. Eddington in the issues of March 7 and 14, 1918, and one by Sir Oliver Lodge in those of September 4 and 25 last.

As was to be expected, the results of the Eclipse Expedition confirming Einstein's theory of gravitation have called forth discussion, support, and opposition from those who find their own particular point of view, physical or metaphysical, in agreement with or in opposition to Einstein's. On the physical side further contributions to the question of the displacements predicted in the solar spectrum are eagerly looked for, and we are glad to note that Sir Joseph Larmor had something of value to communicate to the Royal Society on this point last week. On the metaphysical side the columns of the *Times* have been opened to Mr. Frederic Harrison, reminding us of the views of Comte on the relativity of space and his opposition to the conception of an æther filling all space. At the same time Mr. Thomas Case stoutly defends the view that Newton's definitions and comments on absolute space and time are sound philosophy and firm foundations of his fame; while Prof. Wildon Carr points out that all the modern relativist arguments can be found in Descartes' "Principles." At a meeting of the Cambridge Philosophical Society on November 24 Prof. Eddington gave an exposition of Einstein's theory to a crowded and eager audience of students. In the discussion following, Prof. Hobson remarked that the abstractness of a theory of the physical universe is in no sense an objection to its validity, any theory or hypothesis being in its essence an abstract scheme built up by the mind to fit those phenomena which have been examined up to date.

THE chairman of council of the Royal Society of Arts, Sir Henry Trueman Wood, in an interesting and thoughtful address at the annual meeting on November 19, reviewed the progress which has been made in the development of our natural resources and in the application of science to industry since the foundation of the society more than a hundred and sixty years ago. He pointed to one outstanding fact, that "all our progress was accomplished by individual action, not by State organisation or control."

Latterly, of course, owing to the increase of scientific knowledge, there had been considerable modification of procedure, the introduction of new methods, and the rise of new industries. Now, partly as a result of witnessing the advantages of organisation and of State aid in relation to German industries, there is an increasing demand in this country for similar organisation and help. The State in its attitude towards invention has been, until quite recent times, merely obstructive to progress. Now there seems some risk of running to the opposite extreme. However, as remarked by Sir Henry, it appears to be "the nature of man to swing from one extreme to another like a pendulum," and we have "to remember that if the pendulum swings to and fro, making no advance, still, all the same, the clock goes steadily on." He directed attention to the work of the Department of Scientific and Industrial Research (already described in NATURE), and spoke hopefully of the work carried out under its auspices by the industrial research associations which have been established in connection with various trades. One of the most important, which seems at last to be about to start effective operations, is the Association for Cotton Research, the headquarters of which will be in Manchester.

THE council of the Royal Meteorological Society has awarded the Symons memorial gold medal for 1920 to Prof. H. H. Hildebrandsson for distinguished work in connection with meteorological science.

SIR HENRY A. MIERS, Vice-Chancellor of the Victoria University of Manchester, has been elected president of the Manchester Literary and Philosophical Society.

DR. J. E. STEAD has been nominated by the council of the Iron and Steel Institute as president for next year in succession to Mr. Eugene Schneider. The date of the annual meeting of the institute has been fixed for Thursday and Friday, May 6 and 7, 1920.

PROF. J. C. MCLENNAN, professor of physics and director of the physical laboratory in the University of Toronto, has since 1917 been lent to the Admiralty by the University, and since January last has been acting as Scientific Adviser to the Board of Admiralty. It is now announced that the Lords Commissioners of the Admiralty have received with much regret Prof. McLennan's resignation of this post.

SIR NATHANIEL DUNLOP, whose death in his ninetieth year is recorded in the *Engineer* for November 21, entered early the service of the Allan Line Co., and rose to be deputy chairman. He was also chairman of the Clyde Trust from 1905 to 1907, and received his knighthood shortly after the opening of the Rothesay Dock. Amongst his other activities he was the first chairman of the British Corporation for the Registry of Shipping, and was its honorary president until the last. He served on a number of Royal Commissions appointed to inquire into shipping questions, and was frequently a witness before other Commissions.

CAPT. P. R. LOWE has recently been appointed by the Principal Trustees of the British Museum to be assistant in charge of the bird-room at the Natural History Museum in succession to Mr. W. R. Ogilvie-Grant. Capt. Lowe has for many years devoted himself to ornithological research at the Natural History Museum, the Royal College of Surgeons, and Cambridge University, and has made extensive collections of, and observations on, birds in Madeira, the Canaries, the Azores, the Cape de Verde Islands, the West Indies, Mexico, Florida, the Mediterranean islands and coasts, South Africa, and the British Islands. He has published numerous papers on ornithology, and is the author of "Our Common Sea-Birds," "A Naturalist on Desert Islands," and of the forthcoming works "In the Track of Columbus" and "The Waders." During the war Capt. Lowe served in the R.A.M.C., and was for two and a half years in command of Princess Christian's hospital train.

WITH the object of promoting the technical and practical development of commercial aeronautics, an Institute of Aeronautical Engineers has been founded. It will be developed largely in the interests of aeroplane mechanics and pilots. Like certain existing institutes of a similar character in other branches of engineering and in chemistry, admission to the various grades of membership is to be by examination, in which piloting experience will be a qualification as well as laboratory work and knowledge of mechanical science. The work of the institute is to commence with next year, when an opening address will be delivered by Prof. Bryan, the president-elect for 1920. The secretary is Capt. Douglas Shaw, and the offices are at 32 Charing Cross, Whitehall, London.

ACCORDING to a Bulletin issued by the National Research Council of the United States, and reproduced in *Science* for October 24, the Council has decided, with the co-operation of the American Physical and Chemical Societies, to compile and issue an American Compendium of Physical and Chemical Constants. It is to be both critical and up-to-date, and to this end the universities and research laboratories of America are to be asked to supply the constants at present known. The business and industrial concerns are then to be asked what other constants are required in their work, and the joint committee charged with the issue of the Compendium will see that they are determined and included in the work. The cost is estimated at 20,000*l.*, and this will, it is expected, be obtained from private sources. We need not emphasise here the great value such a Compendium would have for scientific and industrial research in this country. Tables of constants from which untrustworthy values were excluded have been much needed in the past half-dozen years.

THE Secretary of State for the Colonies has, with the approval of the Cabinet, appointed a Committee to prepare a complete scheme of Imperial wireless communications in the light of modern wireless science and Imperial needs. The Committee will (1) consider what high-power wireless stations it is desirable on commercial or strategic grounds that the Empire should ultimately possess; (2) prepare estimates of the capital and annual costs of each station—the life of the plant and buildings, as taken for the calculation of depreciation, to include an adequate allowance for obsolescence; (3) examine the probable amount of traffic and revenue which may be expected from each station; and (4) place the stations recommended in their order of urgency. The Committee is composed as follows:—The Right Hon. Sir Henry Norman, Bart. (chairman), Mr. F. J. Brown, Rear-Admiral F. L. Field, Sir John Snell, Prof. J. E. Petavel, Dr. W. H. Eccles, Mr. J. Swinburne, and Mr. L. B. Turner. The secretary is Brig.-Gen. S. H. Wilson, and the assistant secretary Lt.-Col. C. G. Crawley. All communications in connection with the Committee should be addressed to the Secretary, 2 Whitehall Gardens, S.W.1.

THE work of the National Union of Scientific Workers is described in the first annual report of the executive for the year ending September 30, 1919. The union consists at present of 603 members distributed among a large number of local branches, and shows evidence of great activity in various directions. Among the more interesting are those concerned with the steps taken whereby the union may be registered as a trade union and secure representation on the Whitley councils set up by the Government for its own employees. The status and payment of a living economic wage to research workers have been the subject of consideration, and the union may in this direction prove a much-needed corrective to the growing exploitation of junior workers and their diminishing power to protect themselves. As a healthy revolt against a situation that has become intolerable, and in which the official spokesmen of science have taken only desultory interest, the formation and work of this union are among the most characteristic signs of the times, and its further career will be watched with keen interest. Experience from the early history of other trade and professional unions shows that it is the first step that counts, and the report seems to indicate that the initial difficulties are in course of being surmounted.

In a recent Smithsonian publication (Smithsonian Miscellaneous Collections, vol. lxix., No. 11) Dr. Aleš Hrdlička, curator of physical anthropology in the U.S. National Museum, Washington, sums up the results of a study of historical and anthropological data relating to the population of Russia. From the point of view of an anthropologist Dr. Hrdlička concludes that, although the "Russian giant may have his Delilahs internally as well as externally," nothing can prevent the population of Russia from coming by its potential powers. He bases his forecast on the fact that there are more than 100,000,000 Russian Slavs, and that every year their birth-rate adds 1,700,000 to their total numbers. "Such a rate of increase of this strong and able portion of the white stock means a biological momentum which in the end must prevail over all opposition." Dr. Hrdlička also notes the fact that there is neither anthropological nor linguistic reasons for the separation of the Ukrainians from the other Slavs of Russia. This is only another example of the fact that claims for national recognition need have no basis in racial differentiation.

A correspondent of the *Morning Post* (November 12–13) describes the results of a series of excavations in Mesopotamia conducted by officers of the British Museum. At the beginning of the war the work was in charge of Capt. Campbell Thompson, and it was intended that on his departure on leave he should be replaced by Prof. King, but on the lamented death of that scholar the veteran explorer, Mr. H. R. Hall, took his place. The result is that thirty-two huge cases of antiquities have safely reached England, and throw new and welcome light on Sumerian culture. The most remarkable discoveries were made at Tell Obeid, close to the Biblical Ur of the Chaldees, and include a basalt statue of a king or viceroy who lived five hundred years before Gudea, about 3000 B.C., and a wonderful copper plaque representing a lion-headed eagle, the symbol of the city of Lachish. At Maqayya or Ur a royal palace built about 2400 B.C. has been excavated, and Capt. Campbell Thompson has unearthed a remarkable series of bricks and other artefacts at Abu Shahrein, the city of the Sumerian deity En-ki, god of earth and water. With this material available English archæologists have no longer to depend on the discoveries made by American and French explorers. It may be hoped that strong pressure will be put on the Office of Works to vacate the museum galleries and permit a public exhibition of these valuable antiquities.

In the *Kew Bulletin* (No. 8, 1919) M. N. Owen gives an account of one of the minor diseases of potato-tubers, which has never been thoroughly investigated. It is known as skin-spot, the tubers becoming dotted with small dark spots during storage. It is found to be due to a minute species of mould-fungus hitherto undescribed (*Oospora pustulans*). The author describes in detail the structure and development of the fungus as determined from artificial cultures. The disease is confined to the surface layers of the tubers, and, besides disfigurement, may cause serious injury by weakening or destruction of the eyes.

Of economic importance is a report on the paper-making qualities of Hawaiian bagasse, or sugar-cane refuse, by A. D. Little (Report of the American Station of the Hawaiian Sugar Planters' Association, Bulletin No. 40). The author discusses various previous attempts to use the waste fibre of the cane as paper-making material, the technique involved, and the commercial aspect of the question. As a result of the investigation it is his opinion that, technically, there are no difficulties which could not fairly easily be overcome, and from an economic point of view the use of bagasse might present under normal conditions an attractive commercial venture.

The unfailing energy of Prof. Pearson's department at University College, London, has now resulted in the production of a series of tracts published by the Cambridge University Press. The objects of this new series are not only to publish new tables (as well as to republish old and inaccessible tables), but also in due course to issue works on interpolation, mechanical quadratures, calculating machines, and other matters of importance to the practical computer. The first of the series is before us, and is entitled "Tables of the Digamma and Trigamma Functions," by Eleanor Pairman. The work contains tables of the logarithmic derivate of the Gaussian Π-function and of its derivate, in addition to some useful miscellaneous information concerning these two functions. The functions are tabulated to eight places of decimals at intervals of 0·02 from 0 to 16, with tables of second differences. There seems no doubt that this series will be of extreme value to computers, and we must feel deep gratitude to Prof. Pearson for using the resources at his disposal in producing it. Finally, it should be said that the appearance of the first of the series is up to the standard which we have grown accustomed to expect from the Cambridge University Press.

In making sulphuric acid by the "contact" process, sulphur dioxide is converted into the trioxide by catalytic oxidation and the product absorbed in water to form the acid. A short account of the very effective "Grillo" plant, erected for the purpose in this country by the Ministry of Munitions, is given by Mr. Raymond Curtis in the Journal of the Society of Chemical Industry for October 15. The catalyst employed is platinum, deposited on granules of calcined magnesium sulphate in the proportion of 0·3 per cent. The purified gases from the sulphur burners, heated to about 350° C., are passed through two converters in parallel, each containing 10,000 lb. of the platinised mass distributed on four trays. For absorbing the trioxide produced, towers packed with quartz are used, and practically perfect absorption can be obtained. The purification of the gases, which is important in preventing deterioration of the catalyst, is effected by passing the cooled vapours through coke columns and sulphuric acid drying-towers; arsenic is thus eliminated, and less than 0·02 per cent. of other impurity (water and inert dust) retained. Details of efficiency and production costs are given.

ALTHOUGH salvarsan (dihydroxydiaminoarsenobenzene dihydrochloride) has proved to be an effective remedy for syphilis, its use in medicine is open to the objection that its administration involves the use of a somewhat elaborate technique. Various attempts have been made to overcome this difficulty, the most successful of which is probably the substitution of the sodium *N*-methylenesulphinate (neo-salvarsan) for the parent compound. Medical opinion on the whole is, however, in favour of the view that salvarsan is more powerful and more certain in its action than neo-salvarsan, though the latter is not without its advocates. In continuation of work begun in 1907 by Prof. F. L. Pyman and his collaborators, Messrs. Baxter and Fargher, of the Wellcome Chemical Research Laboratories, described at the last meeting of the Chemical Society a number of arsenic compounds prepared in the hope that they would be suitable for direct intravenous injection in simple aqueous solution. These compounds are arsenobenzenes of a new type obtained by the reduction of benzodiazolearsinic acids, which in turn are produced by the action of acetic or formic acid on diaminophenylarsinic acid and its homologues. The new arsenobenzenes form dihydrochlorides which are soluble in water, but, though they exhibit a reduced acidity as compared with salvarsan, they still prove to be too acid for direct intravenous injection. These experiments are, however, of considerable interest, forming as they do the nucleus of further work on the replacement of amino-groups by heterocyclic nuclei in arsenobenzenes.

ONE of the latest of the many developments of the Mallet type of locomotive on American railways is a simple or non-compound engine for goods and banking service, built at the works of the Pennsylvania Railroad. From an article in the *Engineer* for November 7 we extract some particulars of this locomotive, which weighs 287 tons, or just above 400 tons with the tender. There are four cylinders, 30·5 in. by 32 in.; the driving-wheels are 62 in. in diameter; the boiler-pressure is 205 lb. per sq. in.; and with a maximum cut-off of 50 per cent. the maximum tractive effort is about 135,000 lb. The size of the boiler is notable; its overall length is 54 ft., including a 14·5-ft. fire-box, 11·5-ft. combustion chamber, 20-ft. barrel, and 8-ft. smoke-box. The barrel diameter is from 8·25 ft. to 9 ft. Expansion movements in the great length of the firebox and combustion chamber are provided for by a folded connection plate forming a U-shaped pocket. A mechanical stoker is used, and the fire-box has a shaking grate operated by power. The grate area is 112 sq. ft., the heating surface 6656 sq. ft., and the area of the superheater surface 3136 sq. ft. The short cut-off employed in the Mallet engine as a substitute for compounding has been criticised by writers, who consider that the system does not possess the advantages which it may realise when applied to the usual type of simple locomotive.

Messrs. Blackie and Son, Ltd., announce "Triumphs of Invention," C. Hall. *The Cambridge University Press* will shortly publish "The Foundations of Music," Dr. H. J. Watt. *Messrs. Hodder and Stoughton* are to publish "Aerial Transport," H. Thomas, and "Applied Aeronautics," G. P. Thomson. *Messrs. Longmans and Co.* announce a new edition of Prof. W. Watson's "A Text-book of Physics," revised by H. Moss. *Sir Isaac Pitman and Sons, Ltd.*, have nearly ready "Electric Lighting in the Home," L. Gaster and J. S. Dow, and "Compressed-Air Power," A. W. and Z. W. Daw. *The University of London Press, Ltd.*, promise "Africa and Europe" (being Book iii. of the New Regional Geographies Series). It will include the British Isles and the new boundaries resulting from the Peace Treaty. The section relating to the British Isles will also be issued separately.

IN the official announcement of the reorganisation of the Board of Agriculture and Fisheries which was published in last week's NATURE, it should have been stated that Sir A. Griffith-Boscawen has been appointed deputy chairman, and Sir A. Daniel Hall vice-chairman, of the President's Administrative Council.

OUR ASTRONOMICAL COLUMN.

THE LEONID METEORIC SHOWER.—Observations at the middle of the present month proved that a few of the meteors were visible, and that the display was prolonged beyond its usual duration. On the night of November 15, in $2\frac{3}{4}$ hours, Mr. C. P. Adamson, watching from Wimborne, Dorset, recorded eleven Leonids radiating from 151°+22°. On November 19 he saw five Leonids near their radiant at 149°+23°. The latter result corroborates an observation in 1876 November 19–22 at Bristol by Mr. Denning, who saw five Leonids from 149°+22°. These figures would appear to prove that there is no decided motion of the radiant similar to that affecting the centre of the great Perseid stream. A brilliant meteor was seen by Mr. Adamson on November 19 last at 11h. 5m. It gave a series of flashes near the termination of its course, which was from 120°+21° to 140°+16°, traversed in two seconds.

TWO STARS WITH LARGE PARALLAXES.—Prof. F. Schlesinger gives particulars in *Astr. Journ.* (No. 758) of two stars within 14′ of each other that both have large parallaxes and proper motions, and yet are apparently quite independent of each other. The brighter star is B.D.+4·123°, which was found thirty years ago to have an annual P.M. of 1·4″. The following determinations of parallax have been made:—

Name	Parallax	Prob. error
	″	″
Schlesinger ...	... 0·15	0·008
Chase ...	... 0·16	0·048
Flint ...	... 0·18	0·040

The other star is of the twelfth magnitude, and was independently found by van Maanen and Wolf to have an annual P.M. of 3·0″. Its place for 1900 is R.A. 0h. 43m. 53s., N. decl. 4° 54·4′.

The following determinations of parallax have been made:—

Name	Parallax	Prob. error
	″	″
Schlesinger ...	... 0·27	0·012
van Maanen	... 0·244	0·008

There would seem to be a fair presumption that the faint star is considerably nearer than the bright one, and hence that their close juxtaposition in the sky is accidental.

The second star is one of the twenty stars nearest to the solar system, and is evidently (like the Barnard and Innes stars) in the extreme dwarf stage. It would be of interest to determine its visual magnitude, which is likely to be brighter than the photographic one.